

App. No. 10/803,045
Office Action Dated June 8, 2005

REMARKS

Favorable reconsideration and reexamination of this application is requested in view of the above amendments and the following remarks. New claims 19-22 are added. Claims 6-10 and 13-22 are pending.

I. Claim amendments

Claims 1-5 are canceled without prejudice or disclaimer.

The amendments to claim 10 are supported by the original disclosure, for example page 6, line 25 to page 7, line 3. As a result, claims 11 and 12 are canceled.

Claim 13 is amended as a result of the amendment to claim 10.

The amendments to claim 14 are supported by the original disclosure, for example page 6, lines 10-17 and Figures 2 and 4.

New claims 19-22 are supported by the original disclosure, for example page 4, lines 14-25; and page 6, line 25 to page 7, line 3.

No new matter has been added.

II. Claim rejections

Claims 14-15 are rejected under 35 USC 102(b) as being anticipated by US 3,205,879 to Von Seggern et al. (Von Seggern).

In addition, claims 1-13 and 16-18 are rejected under 35 USC 103(a) as being unpatentable over Von Seggern.

Applicants respectfully traverse the rejections.

A. Claims 14-18

Von Seggern does not teach each and every feature recited in claim 14 and does not anticipate claim 14. In particular, Von Seggern does not disclose each throttle valve being associated with a respective engine cylinder. In addition, Von Seggern does not disclose at least two of the plurality of throttle valves being connected, thereby allowing engine valves in at least some of the cylinders in said multi-cylinder internal combustion engine to pause.

App. No. 10/803,045
Office Action Dated June 8, 2005

The rejection has equated the valves 27, 29 in Von Seggern to the throttle valves recited in claim 14. The valves 27, 29 are not associated with respective engine cylinders. In fact, the air flow and fuel controlled by the valves 27, 29 combine in the outlet port 18 and manifold 32, so that the valves 27, 29 control flow to the same engine cylinders.

Further, Von Seggern does not disclose engine valve pausing in cylinders. Therefore, Von Seggern does not disclose a plurality of throttle valves being connected in an engine having engine valves that can pause.

For at least these reasons, Von Seggern does not anticipate claim 14. Claims 15-18 depend from claim 14 and are patentable along with claim 14 for that reason alone and need not be separately distinguished at this time.

B. Claims 1-5

Claims 1-5 have been canceled.

C. Claims 6-9

Claim 6 is patentable over Von Seggern because Von Seggern does not teach or suggest a throttle opening sensor that detects opening of said throttle valve and an injector being disposed on opposite sides of a main body of the throttle body.

Von Seggern does not disclose a throttle opening sensor, or the positioning of such a sensor relative to an injector. The rejection asserts that placing an injector on the opposite side of a sensor would be obvious in order to balance the housing. Applicants traverse.

As described, current arrangements require that a wide space be provided on an upper portion of the throttle body, which results in uneven space distribution around the throttle body, or current designs increase the size of the engine (see, e.g., page 1, line 21 to page 2, line 7). In contrast, the claimed throttle body more efficiently uses the space around the throttle body, and allows a decrease in engine size (see, e.g., page 3, lines 1-5 and page 15, lines 9-22).

The positioning of the sensor and injector recited in claim 6, which results in more efficient use of the space around the throttle body, thereby reducing engine size, is not recognized by Von Seggern. The assertion that such an arrangement is obvious is derived only after reading Applicant's disclosure, which is impermissible hindsight.

App. No. 10/803,045
Office Action Dated June 8, 2005

For at least these reasons, claim 6 is patentable over Von Seggern. Claims 7-9 depend from claim 6 and are patentable along with claim 6 for that reason alone and need not be separately distinguished at this time.

D. Claims 10-13

Claim 10 is patentable over Von Seggern because Von Seggern does not teach or suggest a motor and an injector being disposed on opposite sides of a main body of the throttle body. In addition, Von Seggern does not disclose at least two of the plurality of throttle valves being connected by a shaft, and each end of the shaft being rotatably supported through a bearing.

Von Seggern does not explicitly disclose a motor, or the positioning of a motor relative to an injector. However, the rejection asserts that placing an injector on the opposite side of a motor would be obvious in order to balance the housing. Applicants traverse.

As described, current arrangements require that a wide space be provided on an upper portion of the throttle body, which results in uneven space distribution around the throttle body, or current designs increase the size of the engine (see, e.g., page 1, line 21 to page 2, line 7). In contrast, the claimed throttle body more efficiently uses the space around the throttle body, and allows a decrease in engine size (see, e.g., page 3, lines 6-12 and page 15, line 23 to page 16, line 9).

The positioning of the motor and injector recited in claim 10, which results in more efficient use of the space around the throttle body, thereby reducing engine size, is not recognized by Von Seggern. Von Seggern does illustrate in Figure 1 that the actuated ends of the throttle valve shaft 27 extends outward to the right of the housing 10, while the jets 21, 26 extend into and out of the page in Figure 1. Presumably then, the motor that is used to drive the shaft 27 is on the right side of the housing 10 in Figure 1, in which case the motor and jets are not disposed on opposite sides of a main body of the throttle body. The assertion that such an arrangement is obvious is derived only after reading Applicant's disclosure, which is impermissible hindsight.

In addition, the rod 30 in Von Seggern is not rotatably supported at each end through a bearing.

App. No. 10/803,045
Office Action Dated June 8, 2005

For at least these reasons, claim 10 is patentable over Von Seggern. Claim 13 depends from claim 10 and is patentable along with claim 10 for that reason alone and need not be separately distinguished at this time.

III. New claims 19-22

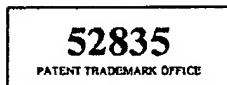
New claims 19-22 are also patentable over Von Seggern and the other prior art of record, as the prior art does not teach or suggest an internal combustion engine as claimed with four engine cylinder, four throttle valves, and three motors for controlling the valves, where two of the valves are connected to and driven by a single one of the motors and each of the other two valves are individually connected to and driven by a respective one of the other two motors.

IV. Conclusion

In view of the above, favorable reconsideration in the form of a notice of allowance is requested. Any questions regarding this communication can be directed to the undersigned at the number provided below.

Respectfully Submitted,

Dated: September 8, 2005



A handwritten signature in dark ink, appearing to read "Curtis B. Hamre". The signature is fluid and cursive, written over a horizontal line.

Curtis B. Hamre
Reg. No.: 29,165
Hamre, Schumann, Mueller & Larson, P.C.
225 South Sixth Street
Suite 2650
Minneapolis, MN 55402
612.455.3800
CBH:jal